

B. Claims

Please add new claim 28 as follows. A complete listing of all the claims appears below; this listing replaces all earlier amendments and listings of the claims.

1. (Previously Presented) A print apparatus which forms a color image by applying ink materials of plural colors onto a print medium, using a recording means including a plurality of nozzle arrays arranged along a predetermined direction, the nozzle array having a plurality of nozzles to eject ink materials, said apparatus comprising:

a scanner to scan the recording means in forward scanning and backward scanning directions, wherein said scanner scans along the predetermined direction;

a print controller to control the printing so that a printing means executes the printing while said scanner scans the recording means in the forward scanning and the backward scanning directions; and

a changing means to change an order of application of the plural ink materials of different colors to a pixel area,

wherein said print controller applies plural ink materials for each pixel area, the pixel area serving as a unit area to form a primary or secondary color thereon,

wherein said print controller applies plural ink materials of different colors for forming the secondary color, to each of plural positions on the pixel area, and

wherein said changing means can change orders of application of the plural ink materials of different colors, to the respective positions on one pixel area.

2. (Previously Presented) The print apparatus according to Claim 1, wherein the plural ink materials of different colors for forming the secondary color are applied plural times onto the pixel area.

3. (Previously Presented) The print apparatus according to Claim 1, wherein dots of the ink materials of the plural colors applied onto the pixel area have centers of gravity all substantially matching each other.

4. (Previously Presented) The print apparatus according to Claim 1, wherein dots of the ink materials of the plural colors applied onto the pixel area overlap at least in part.

5. (Previously Presented) The print apparatus according to Claim 2, wherein a plurality of dots of the secondary color are laid in different application orders of the ink material of a certain color and the ink material of the second color in the pixel area.

6. (Previously Presented) The print apparatus according to Claim 1, wherein the recording means comprises a plurality of recording elements arranged in such a manner that recording elements for applying the ink material of a certain color are symmetric in a scanning direction with respect to recording element for applying the ink material of the second color.

7. (Previously Presented) The print apparatus according to Claim 6, wherein the recording means comprises recording elements for applying at least ink materials of cyan, magenta, and yellow, wherein, with respect to a recording element corresponding to the certain color, the recording elements corresponding to the other colors are located in symmetry in the scanning direction.

8. (Previously Presented) The print apparatus according to Claim 6, wherein the recording means comprises two sets of recording elements for applying at least ink materials of cyan, magenta, and yellow arranged in symmetry in the scanning direction.

9. (Previously Presented) The print apparatus according to Claim 7, wherein the recording means further comprises a recording element for applying black ink.

10. (Previously Presented) The print apparatus according to Claim 8, wherein the recording means further comprises a recording element for applying black ink.

11. (Previously Presented) The print apparatus according to Claim 6, wherein the ink materials of the plural colors applied to the pixel area are applied by one scan of the recording means.

12. (Previously Presented) The print apparatus according to Claim 1, wherein the ink materials of the plural colors applied to the pixel area are applied by plural scans in forward and backward scanning directions of the recording means.

13. (Previously Presented) The print apparatus according to Claim 1, further comprising a memory for storing data for selectively applying the ink materials of the plural colors onto the print medium in accordance with the color image and for storing data for enabling the ink material of a certain color to be applied plural times onto the pixel area.

14. (Previously Presented) The print apparatus according to Claim 13, wherein said memory is a print buffer.

15. (Previously Presented) The print apparatus according to Claim 7, comprising a memory for storing data for selectively applying the ink materials of the plural colors onto the print medium in accordance with the color image, in correspondence to each of the plurality of recording elements.

16. (Previously Presented) The print apparatus according to any one of Claims 1 to 15, wherein the recording means ejects the ink materials by heat.

17. (Previously Presented) A print apparatus which forms a color image by applying ink materials of plural colors onto a print medium using a recording means including a plurality of nozzle arrays arranged along a predetermined direction, the nozzle array having a plurality of nozzles to eject ink materials, said apparatus comprising:

a scanner to scan the recording means in forward scanning and backward scanning directions, wherein said scanner scans along the predetermined direction; and

a print controller to control the printing by applying plural ink materials for each pixel area, the pixel area serving as a unit area to form a color thereon,

wherein, orders of application of the plural ink materials of different colors for forming the process color, to the respective positions on one pixel area, are made symmetric.

18. (Previously Presented) The print apparatus according to Claim 1, said apparatus being applied to a copy machine having a scanner.

19. (Previously Presented) The print apparatus according to Claim 1, said apparatus being applied to a facsimile machine having a transmitter and receiver of data.

20. (Previously Presented) A print method which forms a color image by applying ink materials of plural colors onto a print medium using a recording means including a plurality of nozzle arrays arranged along a predetermined direction, the nozzle array having a plurality of nozzles to eject ink materials, said method comprising the following steps:

scanning the recording means in forward scanning and backward scanning directions, wherein the scanning is performed along the predetermined direction;

controlling the printing so that a printing means executes the printing while said scanning step is performed to scan the recording means in the forward scanning and the backward scanning directions,

wherein, in said controlling step, the printing means applies plural ink materials for each pixel area, the pixel area serving as a unit area to form a primary or secondary color thereon,

wherein the printing on the print medium is executed by changing an order of application of the plural ink materials of different colors to the pixel area, and

wherein, when the plural ink materials of different colors for forming the secondary color are applied to each of the plural positions on the pixel area so as to print the secondary color, the orders of application of the plural ink materials of different colors to the respective positions on one pixel area, can be changed.

21. (Previously Presented) The print method according to Claim 20, wherein the recording means comprises two sets of recording elements for applying the ink material of a certain color, which are arranged in symmetry in a scanning direction with respect to a recording element for applying the ink material of a second color, and

wherein a first step and a second step are carried out by one scan of the recording means.

22. (Previously Presented) A print method which forms a color image by applying ink materials of plural colors onto a print medium using a recording means including a plurality of nozzle arrays arranged along a predetermined direction, the nozzle array having a plurality of nozzles to eject ink materials, said method comprising the following steps:

scanning the recording means in forward scanning and backward scanning directions, wherein the scanning is performed along the predetermined direction; and

controlling the printing by applying plural ink materials for each pixel area, the pixel area serving as a unit area to form a color thereon,

wherein orders of application of the plural ink materials of different colors for forming the process color, to the respective positions on one pixel area, are made symmetric.

23. (Previously Presented) The print method according to Claim 22, wherein the recording means comprises two sets of recording elements for applying the ink material of a certain color and recording elements for applying the ink material of a second color arranged in symmetry in the scanning direction, and wherein said scanning step is performed using the recording means.

24. (Previously Presented) The print method according to Claim 23, wherein said scanning step is performed using a plurality of scans in forward and backward scanning directions of the recording means.

25. (Previously Presented) A print apparatus which forms a color image by applying ink materials of plural colors onto a print medium, using a recording means including a plurality of nozzle arrays arranged along a predetermined direction, the nozzle array having a plurality of nozzles to eject ink materials, said apparatus comprising:

a plurality of buffers for storing data corresponding to respective ink materials of plural colors, said plurality of buffers corresponding to predetermined ones of the ink materials of plural colors for forming a secondary color;

a scanner to scan the recording means in forward scanning and backward scanning directions, wherein said scanner scans along the predetermined direction;

a print controller to control the printing so that a printing means executes the printing while said scanner scans the recording means in the forward scanning and the backward scanning directions;

a changing means to change an order to application of the plural ink materials of different colors to the pixel area,

wherein said print controller applies plural ink materials for each pixel area, the pixel area serving as a unit area to form a primary or secondary color thereon,

wherein said print controller applies plural ink materials of different colors for forming the secondary color, to each of plural positions on the pixel area,

wherein said changing means can change orders of application of the plural ink materials of different colors, to the respective positions on one pixel area; and

when recording is conducted by the predetermined ones of the ink materials of plural colors for forming the secondary color, said changing means changes the order of application of the plural ink materials, by selecting the buffers used for the recording, for each pixel area, from said plurality of buffers.

26. (Previously Presented) A data buffer configuration of a print apparatus, said configuration comprising image data of a certain color written into a plurality of print buffers by a print controller, wherein the print controller controls a printing of an image by means of a plurality of nozzles,

wherein the printing is executed by applying plural ink materials for each pixel area to form a primary or secondary color thereon, the pixel area being a unit area,

wherein, as to the pixel area forming the secondary color thereon, dots of the secondary color are formed, in ink materials of plural colors, at plural positions on the pixel area to form the secondary color.

27. (Previously Presented) The data buffer configuration according to Claim 26, wherein the same data may be written into two print buffers.

28. (New) A print apparatus which performs printing onto a print medium, scanning in a main scan direction an ink jet head including a plurality of nozzle arrays arranged to respectively correspond to at least two colors, with symmetric color arrangement, each nozzle array having a plurality of nozzles to eject ink materials, said apparatus comprising:

a buffer to store data corresponding to ink materials of at least two colors, said buffer having a plurality of storage areas corresponding to the ink materials of at least two colors respectively;

a controller to control one(s) corresponding to ink materials of at least two colors of data received externally so as to be stored in the respective storage areas of said buffer; and

a record control means adapted to record using data stored in corresponding one(s) of the storage areas of said buffer, by means of the nozzle arrays arranged to respectively correspond to at least two colors.